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Matls. I.M. 491.11

INSPECTION AND ACCEPTANCE OF POLYMER GROUTS

GENERAL

Polymer grouts shall meet the requirements of applicable Iowa Department of Transportation specifications.

ACCEPTANCE

Acceptance of polymer grouts for use on Department of Transportation projects will be on the basis of manufacturer and brand name approval.

Approved manufacturers and brand names for two different types of applications are listed in Appendices A, B, and C.

MANUFACTURER AND BRAND NAME APPROVAL

To obtain approval for polymer grouts under Appendices A, B, or C, the manufacturer shall submit the following items to the Office of Materials in Ames, Iowa:

1. Product identification including brand name and product number
2. Complete manufacturer recommendations for usage
3. A current Material Safety Data Sheet (MSDS)
4. A sample consisting of enough material for three pull-out tests

APPROVAL FOR APPENDIXES A, B, AND C

Appendix A contains pourable polymer grouts intended for vertical installations or angled installations less than 45° from vertical. Mechanical mixing is required to blend the material to uniform consistency.

Appendix B contains viscous polymer grouts intended for horizontal installations. Mechanical mixing is required to blend the material to uniform consistency. The laboratory evaluation for both Appendix A and B will consist of bonding a #15 M (No. 5) reinforcing bar in a 100 mm (4 in.) deep, 19 mm (¾ in.) diameter hole in a concrete specimen and performing a pull-out load test. After a seven-day cure at laboratory temperature, the test specimen shall have a 40,000 N (9,000 pound) minimum load.

Polymer grouts for dowel bar installation are shown in Appendix C and shall be either an encapsulated chemical anchor system or a pressure injectable system with mechanical proportioning and mixing. To obtain approval for products under Appendix C, the laboratory evaluation will consist of bonding a 32 mm (1¼ in.) smooth epoxy-coated dowel in a 230 mm (9 in.) deep, 35 mm (1⅜ in.) diameter hole in two concrete specimens. One test specimen shall develop a 180 N (40 pound) minimum pull-out load in one hour. The other specimen will be used to determine a 24-hour pull-out load, which must be a minimum of 44,500 N (10,000 pounds). Both specimens will be kept at laboratory temperature.

Manufacturers whose products require special equipment such as an injection or mixing equipment shall recommend which equipment can be used with their product.

Approval of polymer grouts may be withdrawn because of deficient monitor test results; product changes made after original approval, or unsatisfactory field performance.

CERTIFICATION

The manufacturer shall file a certification statement at the beginning of each calendar year stating that the material supplied during that year is identical with the formulation previously tested and approved by the Office of Materials.

MONITOR SAMPLING AND TESTING

The Office of Materials may sample and test polymer grouts to verify compliance with specifications.